

M.Sc. 3rd Semester Examination, 2019
BIOMED. LAB. SC. AND MANAGEMENT
PAPER – BLM-301

Full Marks : 40

Time : 2 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

1. Answer any *four* questions from the following : 2×4
- (a) Write the features of exponential phase of bacterial growth.
 - (b) ‘Antibiotic solutions should be filter sterilized before use’ – Why ?
 - (c) What was the contribution of Joseph Lister in Microbiology ?
 - (d) What is meant by “nosocomial infections” ?

(Turn Over)

(e) Why is SRID called *Single Radial immunodiffusion* ?

(f) Define reagin.

(g) Name two fluorescent dyes.

(h) What is flocculation ?

2. Answer any *four* questions from the following : 4×4

(a) What is the purpose and principle of Albert's staining ?

(b) Compare between light and electron microscope.

(c) "Autoclave sterilizes with pressurised steam"— Explain the statement.

(d) Write the role of taxonomy in diagnostic microbiology and infectious diseases.

(e) Discuss the principle of complement fixation test with diagram.

(f) Why are malignant cells used in the preparation of monoclonal antibody ?

- (g) Define prozone and postzone phenomenon.
- (h) How do you interpret the results of HIV detection by western blot technique ?

3. Answer any *two* questions from the following : 8×2

(a) Mac Conkey Agar is a selective and differential medium – Justify. What are the “ESKAPE” pathogens ? 5 + 3

(b) (i) ‘Obligate anaerobe cannot tolerate the effect of toxic forms of oxygen, but obligate or facultative aerobe can do’ – Justify.

(ii) A blood specimen spiked with six E.coli cells. If E.coli has a generation time of 20 minutes, how many cells would be in the blood after 9 hours ? 5 + 3

(c) What is the type of modification found in immunoglobulin chain of a RA patient ? How do you detect degenerative RA for a seronegative RA patient ? 4 + 4

- (d) Discuss the hybridoma technology with the help of a diagram. Discuss the non-specific tests for syphilis. 4 + 4
